REPORT RESUMES

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THE PEACE CORPS EDUCATIONAL TELEVISION (ETV) PROJECT IN COLOMBIA--TWO YEARS OF RESEARCH. RESEARCH REPORT NO. 1, THE PROJECT AS A WHOLE--ORGANIZATION, ADAPTATION, AND EXPANSION.

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IN 1963, THE PEACE CORPS, WITH FINANCIAL SUPPORT FROM THE AGENCY FOR INTERNATIONAL DEVELOPMENT, AGREED TO HELP THE COLOMBIAN GOVERNMENT ESTABLISH A NATIONWIDE EDUCATIONAL TELEVISION SYSTEM DIRECTED PRIMARILY AT IMPROVING PUBLIC EDUCATION. THE TWO YEAR PROJECT, BEGUN IN 1964, HAD TWO MAJOR CONCERNS--TO PRODUCE TELEVISED COURSES AND TO CREATE A NETWORK OF SCHOOLS WITH TELEVISION IN WHICH BROADCASTED "CORE" MATERIAL CAN BE UTILIZED BY TEACHERS. NUMBER OF MINUTES BROADCAST PER WEEK DOUBLED BETWEEN EARLY 1964 AND THE END OF 1966, COURSES TAUGHT INCREASED FROM 10 TO 16, NUMBER OF TEACHERS INVOLVED ROSE FROM 1,000 TO 8,500, AND NUMBER OF STUDENTS ROSE FROM 38,000 TO 350,000, ABOUT ONE-FIFTH OF TOTAL ELEMENTARY SCHOOL ENROLLMENT. SUBJECTS TAUGHT INCLUDED MATHEMATICS, NATURAL AND SOCIAL SCIENCES, AND LANGUAGE ARTS. ESTIMATED COST OF DELIVERING ONE HOUR OF TELEVISION TO ONE PUPIL IN 1965 WAS FIVE U.S. CENTS. PARTICIPATION OF COLOMBIANS INCREASED DURING THE PROJECT AND WAS PARTICULARLY STRONG IN PRODUCTION, INSTALLATION, AND MAINTENANCE OF RECEIVING EQUIPMENT. COLOMBIAN ATTITUDES WERE MAINLY FAVORABLE, AND THE PROJECT AROUSED ENTHUSIASM AMONG THE MAJORITY OF TEACHERS AND ADMINISTRATORS. THE MAJOR PROBLEMS WERE IN PRODUCTION AND PROGRAMING, UTILIZATION IN CLASSROOMS (DUE TO INSUFFICIENT FACILITIES AND MOTIVATION), AND OCCASIONAL LACK OF COMMITMENT FROM AUTHORITIES. (OH)

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THE PEACE CORPS
EDUCATIONAL TELEVISION (ETV) PROJECT IN COLOMBIA -- TWO YEARS OF RESEARCH

Research Report No. 1:

The Project As a Whole -- Organization, Adaptation, and Expansion

By George Comstock and Nathan Maccoby

a report of the
INSTITUTE FOR COMMUNICATION RESEARCH
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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Institute for Communication Research
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When the Peace Corps Educational Television (ETV) Project was inaugurated in Colombia in 1964, its televised instruction reached about 38,000 pupils in 200 elementary schools. After three years of operation, these figures have ballooned to 350,000 pupils in 1,250 schools. It is the largest instructional television system in any of the world's developing countries. It is also the Peace Corps' first undertaking in educational television and its sole large scale project, although at this writing it is active in television on a very limited scale in Peru and Jamaica. In this report ---the first in the present series on our close study of the ETV Project---we present a detailed picture of the project and its progress. Unlike the others, which cover in detail studies of various aspects of the project, we will here look at the ETV Project as a whole. It may be read either for a broad view in order to understand better the research in the other reports, or simply for the story of the Project itself.

Background

In 1963, the Peace Corps, in cooperation with the Agency for International Development (AID), agreed to assist the Colombian government in establishing a nationwide educational television system primarily aimed at improving public elementary education.

- AID's role was to be financial. It has provided $575,000 for the purchase of TV sets and studio equipment.

- The Peace Corps undertook to establish and develop ETV in Colombia. It has spearheaded and directed the project and has provided, as Volunteers, critically needed personnel.

- Colombia agreed to provide matching personnel, studio and transmission facilities, and the maintenance of equipment. Presumably, Colombia was to work with the Peace Corps toward eventual independent operation of ETV by Colombia.

Television, of course, is not an equally appropriate remedy for all ailing educational systems. It can rather quickly bring to every class with a TV set a highly skilled and trained teacher using modern methods and the latest in teaching aids. However, its basic cost is considerable. It can provide the greatest benefit when the job to be done is a big one -- both in terms of the educational improvement needed and the numbers to be reached.

Much about Colombia and its educational system recommended the large scale use of television. The need for improvement is certainly great, especially at the elementary level:

- Teachers are poorly educated and lowly trained. In 1963, the year before the ETV Project began, the majority of public school teachers (about 53 per cent) had no degree at all, which meant they had not formally completed high school. Only 16 per cent could be said to be "fully qualified," which meant a secondary education plus two years of specialized teacher training -- the six year Normal School course. Many teachers had ended their formal training with the fifth grade, which some of them were required to teach.[1]

- Its schools are poorly equipped, with few books, maps, pictures, or other teaching aids.

- The principal teaching method is rote memorization, in which the pupil is told what he must learn and repeats the words or phrases until he hopefully has them memorized.

- Because of the availability of relatively inexpensive private education in most places (itself the consequence of inadequate public facilities), the public schools get children from the lower social strata. Since the parents lack the economic means for any other kind of education, it is public school or no school. These parents, too, are likely to be illiterate and to be incapable of providing any basic formal education at home. Moreover, these parents have neither the sophistication nor drive to demand extensive improvements, and do not constitute an effective or consistent force for educational reform.

- Colombia's population has been growing quite rapidly as the consequence of declines in the death rate, and this has resulted in increased demands on educational facilities. It is estimated that Colombia's annual rate of population growth is 3.2 per cent, compared with 1.6 per cent for the United States where the pressure produced by population growth on educational facilities has been considerable. Moreover, as would be expected when immigration has not figured in population growth, the number of children has been increasing faster than the population as a whole. The United Nations Economic Commission for Latin America has estimated that 4,000 new teachers are needed each year during the present decade to meet the demand. If conventional means were relied upon, it is estimated that this would require a tenfold increase in the number of annual graduates of the Normal (teacher training) schools. The other alternative is increased use of unqualified teachers.[2]

- Colombian education is caught in the squeeze between rising aspirations and inadequate resources. The comments of the Colombian sociologist Orlando Fals Borda sum up the situation:

> ...the cultural goals of the common people have had important changes. These people are...aspiring to higher goals. One of them is evidently appropriate schooling for children...Unfortunately, such changes in the cultural goals of the people have not been followed by adjustments in related institutional channels, which is one of the main reasons for national unrest and dissatisfaction. Several institutional bottlenecks frustrate the general population in achieving their goals; the lack of schools, the lack of teachers, and the lack of educational opportunities resulting from the maldistribution of wealth.[3]

- Colombia has embarked on a policy of improving and extending public elementary education, before doing the same for secondary or higher education.

There were also a number of conditions which made the use of television especially attractive for reforming elementary education:

- Colombia has a national language, Spanish, which is spoken by almost everyone.

- It has a well-established and large, if not large enough, system of free, public elementary schools.

- It has a national syllabus, which all teachers are expected to follow.

- It has a national television network---which, prior to ETV, was used only for a few hours every evening for commercial telecasting.

In sum, Colombia held great promise for the effective use of television in education. The need for reform was great. Television could be readily used on a large scale, for there was a single language, a school system, a uniform syllabus, and a national transmitting network. There was also some prior experience with educational television.

The ETV Project's initial concentration on elementary education followed from the circumstances. Not only did need and national policy coincide, but there is no extensive system of formal basic schooling for the ordinary people beyond the elementary level.

Twice before, Colombia had attempted the televising of elementary school instruction, but without outside assistance. By all reports, there was considerable enthusiasm among teachers and pupils. However, both programs faltered and were discontinued. The first was in 1955, shortly after the inauguration of national television. It lasted only a year, and only a few schools in and around Bogota, the capital, were included. It was undertaken because of the personal interest of Colombia's chief executive, and when the government changed, it ended. The second, begun in 1961, lasted two years. It included more schools and a somewhat broader area. It did not continue into a third year because of a shortage of funds, made acute by a national financial crisis, and a lack of interest and cooperation on the part of the two government agencies most concerned, the Ministry of Communication (which did not consider education as one of its major functions) and the Ministry of Education (which looked upon the program as a project of the Ministry of Communication).

There are many reasons, of course, why these two attempts were weak, and failed. Among the principal ones, which figured importantly in the Peace Corps' plans for its ETV Project, are these:

a) resources were inadequate, both for extensive telecasting and for reaching a large number of schools---studio facilities and transmission equipment, funds, and trained personnel simply were insufficient either to establish a broad television curriculum of good quality or to provide enough TV sets for a network of worthwhile size of receiving schools;

b) the problems of the school and the teacher in making effective use of the televised instruction were ignored---schools were often poorly equipped for good reception or viewing, and teachers were often uneasy and uncertain about teaching with television, and little attention was given to the views of teachers and principals, with a consequent diminution of effectiveness, cooperation, and interest;

c) firm governmental commitment and support, a necessary condition for broad educational reform, was lacking---the government was not fully committed to the use of television in education, and the Ministries of Communication and Education were not equally and cooperatively involved.

The Peace Corps carefully designed its ETV Project to overcome these difficulties:

- Resources---funds, equipment, personnel---were to be adequate both for an extensive televised curriculum and a broad network of receiving schools.

- The problems of the school and the teacher were to receive direct attention through a large and unusual program in which Volunteers consulted regularly with teachers in their schools on the problems encountered in teaching with television, conducted orientation and in-service training sessions, often personally introduced television into schools, and worked in other ways to insure that the televised instruction was effectively used in the classroom.

- The project was set up with as firm as possible commitments in advance for support from the government, and organized to involve as much as possible both the Ministries of Communication and Education.

Thus, the strategy of the Peace Corps involved what could be characterized as a "vertical" attack: all levels of the educational system concerned with ETV, from the teachers in the lone school in a remote village to the government's communications and education people, were to receive attention. It is a strategy that has paid some valuable dividends---as we shall see later.

The ETV Project was inaugurated in Colombia at the beginning of 1964. The initial Peace Corps contingent consisted of a staff level project director and about 80 Volunteers. The Volunteers, after three months Peace Corps training, arrived during the latter part of 1963 and the first week of January, 1964. The telecasting of instruction began with the first semester (February-June) of 1964. The initial telecasts reached an estimated 38,000 pupils in 200 elementary schools. This beginning televised curriculum consisted of 10 courses for one or another of the five elementary grades, with each course consisting of two 15 minute telecasts each week. Some days before the telecasting began, the project was officially inaugurated by the then president of Colombia, Guillermo Leon Valencia, in a public evening telecast in which Colombian and Peace Corps officials associated with the project also participated.

Goals

The Peace Corps has set itself two goals in the ETV Project:

a) to markedly improve the education provided in Colombia's elementary schools;

b) to provide Colombia with a powerful, flexible tool for public education at all levels.

To accomplish the first, the Peace Corps ETV Project has undertaken several tasks---the televising of a curriculum for the first five grades (which are those covered by elementary schools in Colombia), the televising of in-service training for teachers, the indoctrinating of teachers in modern teaching methods, and the setting up of a receiving network of schools with TV. To accomplish the second, it has tried to build a Colombian organization, competent and dedicated, for the independent operation of ETV. Eventually, it is hoped that the ETV system will regularly provide instruction for adults other than teachers in literacy, health, and other subjects---and by the end of 1966 some pioneering efforts in these areas had already been made---and for students beyond the primary grades.

Organization and Structure

The assignments of Volunteers in the ETV Project give a good picture of the job the Peace Corps has undertaken, and of the structure of the project. There have been three principal ones:

a) production---the putting together of the televised material;

b) utilization--the working with teachers and principals at the classroom level (called "utilization" because it is concerned with the actual use of televised instruction in the school);

c) TV set installation and maintenance---the building of a network of schools with TV to receive the instruction.

Of the initial Volunteers, about one-fourth were assigned to production, two-thirds to utilization, and the remaining few to TV installation and maintenance. The distribution among these jobs of later Volunteers, assigned to replace the original ones when their two year terms of service ended, has remained much the same except for an even greater proportion in utilization.

Utilization deserves a special note, partly for the sophistication of the idea, which recognizes that the effectiveness of any instruction packaged in the "new media," however high its quality, depends largely on what takes place at the point of reception, and partly because such a large proportion of the Volunteers were assigned to it. This Volunteer program was designed to counter the social and psychological, as well as the physical and technical factors that might restrict the educational impact of television in the classroom. In a sense, it was intended to bridge the last gulf between the studio and the pupil. We have come to think of the utilization

Volunteer's job as three-fold: a) to gain and maintain teacher enthusiasm for ETV; b) to insure an adequate physical environment in each school for viewing; and, c) to change the behavior of teachers so that they make the best use of television and otherwise teach better. Put simply, it is the utilization Volunteer's job to make ETV work at the point of reception.

Colombia was to provide matching personnel, including 50 utilization workers. It has largely done so, except for the utilization workers. Ostensibly, budget problems prevented its meeting this commitment. This Federal government failure has caused the Peace Corps to turn to Department (state) governments for people to fill this role. Later, we will look more closely at this Peace Corps maneuver, which has had considerable success. From the beginning, those who have taught over television have been Colombians. The Peace Corps has insisted upon this as one way of making the project as Colombian as possible. We will present a detailed picture of the numbers and relative roles of Colombia and Peace Corps people later. Altogether, as intended, the part played by Colombians has increased as time has passed---although not, it should be said, at as fast a pace as the Peace Corps initially envisioned.

Formally, the ETV Project consists of two roughly mated organizations---the Peace Corps' ETV group, and Colombia's. In practice, the head of the project has been the Peace Corps' ETV Project Director. He has coordinated all activities, including those of the two Colombia ETV executives, each of whom has been responsible for a specific sphere of ETV. One, a representative of the Ministry of Education, has been in charge of pedagogy for ETV---the content and organization of instruction. The other, a representative of the Ministry of Communication, has been in charge of television production---the studio. These two are equal and parallel in organizational position, and ostensibly would share direction of the project if the Peace Corps ceased to participate. In the Colombia organization, there is no place or role provided for an administrator with the comprehensive responsibilities of the Peace Corps' Project Director. From the Colombia viewpoint, the project itself is part of the government supervised but semi-autonomous Instituto Nacional de Radio y Television, which also runs the commercial evening telecasting. As a result, the project is governed by the Instituto's advisory committee, made up of representatives of the Ministries of Communication and Education and, by presidential appointment, the public; when concerned with ETV, it is joined by the two Colombia ETV executives.

Telecasting has been over the Instituto's facilities. For the first three years, the Instituto's studios have doubled for ETV, as well as commercial production. Although almost two years behind schedule, new independent studios and facilities exclusively for ETV, provided by the Instituto, were operating by the end of 1966. They are equipped with purchases from the AID funds.

Although all are expected to follow a national syllabus, schools in Colombia are administered independently by each Department. The expansion of the receiving network has been on the basis of separate agreements with Departments. Thus, it has occurred in a number of steps---from Bogota and one Department at the beginning of 1964, to Bogota and eight Departments by the end of 1966.

The Television Curriculum

The ETV Project has compiled an impressive record of telecasting. The story is largely told in Table 1:1. As can be seen, the project began in 1964 with an ambitious schedule that was greatly expanded in 1965 and further rounded out in 1966. In this sphere, there has been remarkable accomplishment and growth.

During 1964, 10 courses were telecast for elementary school pupils---two for the first grade, one for the second, two each for the third and fourth, and three for the fifth. Subjects included Natural Science, Social Science, Mathematics, and Lenguaje (which we do not simply translate as "Language," since it was a potpourri of social skills, language arts and entertainment, as well as grammar and spelling). Telecasting was limited to mornings. These 10 courses, with each consisting of two 15 minute programs a week, added up to 20 telecasts and 300 minutes weekly of new television.

For 1965, the television schedule was increased by 50 per cent---to 15 courses and 450 minutes weekly of television. Telecasting was extended to the afternoons. Music was added for one grade. Otherwise, the subjects remained the same, but for several subjects courses were presented in new grades. In addition, during the second semester each week the telecasts for certain courses were aired twice, making it possible for more classes to watch on the one TV set available in most schools. These were courses for

Table 1:1: ETV Telecasting 1964-1966.

	Semester of ETV Project:					
	1 Feb.-June 1964	2 July-Nov. 1964	3 Feb.-June 1965	4 July-Nov. 1965	5 Feb.-June 1966	6 July-Nov. 1966
Daily schedule:	a.m. 8:15-11:00	a.m. 8:15-11:00	a.m. 8:15-11:00 p.m. 2:10-3:00	a.m. 8:15-11:00 p.m. 2:10-3:00	a.m. 8:15-11:00 p.m. 2:10-4:25	a.m. 8:15-11:00 p.m. 2:10-4:25
Minutes per week of programming, exclusive of repeats	300[1] 30[2] 330	300 30 330	450 60 510	450 60 510	480 60 540	480 60 540
Minutes per week of telecasting, including repeats	300 30[2] 330	300 30 330	450 120 570	600[3] 60 660	600 60 660	600 60 660
Grade:						
1	Lenguaje Math	Lenguaje Math	Lenguaje Math Music	Lenguaje Math Music	Lenguaje Math Music	Lenguaje Math Music
2	Lenguaje	Lenguaje	Lenguaje Math NS	Lenguaje Math NS	Lenguaje Math Music NS	Lenguaje Math Music NS
3	NS SS	NS SS	Lenguaje Math NS	Lenguaje Math NS	Lenguaje Math NS	Lenguaje Math NS
4	NS SS	NS SS	Math NS SS	Math NS SS	Math NS SS	Math NS SS
5	Math NS SS	Math NS SS	Math NS SS	Math NS SS	Math NS SS	Math NS SS
Total number of courses for pupils:	10	10	15	15	16	16

NS = Natural Science
SS = Social Science

[1] Each course consisted of two 15 minute televised lessons a week, or 30 minutes a week for each course.

[2] Teacher training telecasts.

[3] Five of the 15 courses for pupils were repeated during the week. During 1966, four of the courses were repeated.

the lower grades where enrollment is proportionally heavier because of increasing attrition by drop-out. For 1966, Music was added for another grade, and the telecasting schedule was extended until even later in the afternoon.[4]

Each increase in the television day represented further recognition by the Instituto of the value of ETV. At the end of 1965, it made available the entire day up to the beginning of commercial telecasting between 6 and 7 p.m. for ETV use. This has opened the way, when opportunity permits, for educational use beyond primary school instruction.

Throughout, all the courses were video-taped for convenient scheduling and re-use. However, the new programming for 1965 and 1966 consisted of far more than the minutes accounted for by the added courses, since previously completed courses were constantly being revised.

Since the project began, the format of the televised courses for elementary school pupils has remained the same. Each course has consisted of two 15 minute programs a week for approximately 15 weeks of each semester. In each case, the television has delivered the "core" of instruction. In this respect, the ETV Project has differed markedly from the many undertakings in educational television in other parts of the world in which the television delivers material that is only complementary to conventional instruction. In Colombia, television has been the backbone for all instruction in the courses it has covered. With the aid of a Teacher Guide for each course published and distributed by the project, the classroom teacher has been expected to build 30 minutes of teaching around each telecast---a 15 minute pre-telecast "motivation" and a 15 minute post-telecast "follow-up." In addition to trying to bring about regular viewing under good conditions, it is on the improvement of this teaching that the utilization Volunteers have concentrated.

The growth since 1964 of the curriculum televised for pupils can be seen by reading across in any section of Table 1:1:

- The number of courses increased from 10 in 1964, to 15 in 1965, and to 16 in 1966.

- The minutes of television per week, exclusive of repeated telecasts, increased from 300 in 1964, to 450 in 1965, and to 480 in 1966.

- The minutes of telecasting per week, including repeats, increased from 300 in 1964, to 450 in 1965, and to 600 in 1966.

- The television day increased from mornings only in 1964, to mornings and afternoons in 1965, and to mornings and even more of the afternoons in 1966.

The additions of courses televised for each grade can be seen in the table. For example, the second grade, which received only Lenguaje in 1964, received Lenguaje, Mathematics, Music, and Natural Science in 1966. An idea of the television day can be gained from the 1966 program schedule in Figure 1:1.

Each course has been turned out by a two person team: the television teacher, who has done the teaching on television and for the most part has been responsible for outlining the content and

Figure 1:1:

The Television Day in 1966

ETV Program Schedule, 1966

Hours	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.
8:15 - 8:30	*Math 1	Leng 2	Leng 3	Math 1	Leng 3	
8:40 - 8:55	Math 2	Math 3	Math 2	Math 3	Leng 2	
9:05 - 9:20	N.S. 4	Math 4	N.S. 2	Math 4	N.S. 4	
9:30 - 10:10	-------------Recreation Period ---------------------					
10:10 - 10:25	N.S. 5	Math 5	Leng 1	N.S. 5	Math 5	(Teacher ((
10:35 - 10:50	N.S. 3	N.S. 2		N.S. 3	Leng 1	(Training
2:10 - 2:25	S.S. 5	S.S. 4		S.S. 5	Mus. 2	
2:35 - 2:50	Mus. 2	Mus. 1		S.S. 4	Mus. 1	
3:00 - 3:20	-------------Recreation Period---------------------					
3:30 - 3:45	Leng 1 (Repeat)	Math 1 (Repeat)		Leng 1 (Repeat)	Math 1 (Repeat)	
3:55 - 4:10	Leng 2 (Repeat)	Math 2 (Repeat)		Leng 2 (Repeat)	Math 2 (Repeat)	

*Math: Mathematics

Leng: Lenguaje

N.S.: Natural Science

S.S.: Social Science

Mus.: Music

preparing the Teacher Guides, and the producer-director, who has been responsible for translating the content into television. Throughout, the television teachers have been Colombia people. During 1964 and 1965, the producer-directors were all Peace Corps Volunteers. During 1966, however, nine of the 16 courses televised were handled by Colombian producer-directors, trained by the Volunteers. One such team has been responsible for as many as three different courses at the same time, although the usual number has been one or two courses. Studio technicians and others working with these two largely have been Colombia people. We will look more closely at the production staff when we later examine the staffing of the project in all areas. The course content has roughly followed the national syllabus, which itself has been under revision in this period, but there has been no careful monitoring of ETV production by the ministry of Education, which is responsible for the syllabus.

In addition to the televising of courses for the pupils, there has also been the televising of in-service training for elementary school teachers. There was 30 minutes of such telecasting a week in 1964, and 60 minutes a week in 1965 and 1966. However, there also was a change in approach during 1965 which is more important than the mere increase in time. The early programs were made up of an unrelated miscellany of presentations on rather general topics (such as child psychology), and failed to win much of an audience. Beginning in 1965, "short courses" in some of the same subjects included in the elementary school curriculum (such as Mathematics), consisting of as many as 17 telecasts, have been presented. In addition, the utilization Volunteers have organized teachers into groups for viewing. Apparently, the more obvious utility of these series and the Volunteers' efforts have combined to make the in-service training telecasts quite successful.

We cover our research on the effectiveness of the televised curriculum in detail in other reports in this series. However, we probably should note here that there is evidence in its favor. In extensive testing of pupils after the first semester of 1964, we found definite signs of superior learning that could be attributed to the television, and no indication that introduction of television on a large scale involved any penalties in pupil learning.[5] In 1965, in a study of the first televised "short course" for teachers, we found strikingly clear-cut evidence of learning from the television.[6]

The Receiving Network of Schools

The accomplishment and growth of the ETV Project in building a receiving network of schools with TV also is impressive. The story is told in Table 1:2. As can be seen, between the beginning of telecasting in February of 1964 and the end of 1966 the project greatly expanded its school network:

- The number of schools with Peace Corps TV sets increased more than six times, from 200 to 1,250.

- The number of teachers teaching with ETV increased eight-and-a-half times, from 1,000 to 8,500.

- The number of pupils receiving televised instruction increased almost 10 times, from 38,000 to 350,000.

Table 1:2:

The ETV Receiving Network, 1964-1966

	Semester of ETV Project						
	When TV teaching began Feb.1964	At end 1st sem June 1964	July-Nov. 1964	Feb.-June 1965	July-Nov. 1965	Feb.-June 1966	July-Nov. 1966
Schools with Peace Corps TV	200	360	500	725	925	1,150	1,250
Teachers using ETV in teaching	1,000	1,800	2,500	4,025	7,000	7,800	8,500
Pupils taking televised courses	38,000	68,500	97,000	153,000	260,000	345,000	350,000
Departments (States) in program	Bog* Cun*	Bog Cun	Bog Cun Tol*	Bog Cun Tol Ant* Boy*	Bog Cun Tol Ant Boy Cal* Atl*	Bog Cun Tol Ant Boy Cal Atl Bol*	Bog Cun Tol Ant Boy Cal Atl Bol San*

*Bog = Bogota,D.E. (Distrito Especial, Colombia's capital)
Cun = Cundinamarca
Tol = Tolima
Ant = Antioquia
Boy = Boyaca
Cal = Caldas
Atl = Atlantico
Bol = Bolivar
San = Santander

[1] With a few exceptions, there is one TV set for each school.

[2] During 1964, it is estimated that there were 5 teachers in each school using ETV. With better selection and organization of schools, it is estimated that the average per school increased to 5.5 for the project's third semester. When these factors combined with the repeating of telecasts so more classes in large schools could watch for the project's 4th semester, it is estimated that the average per school was increased to about 7.

- The Departments (states) where televised instruction is received, in addition to the capital, Bogota, increased from one to eight.

As the result of this expansion, it is estimated that by the end of 1966 the televised instruction was reaching about 20 per cent of Colombia's elementary school enrollment. However, the figures do not merely tell a story of expansion in size. They also tell a story of increasing efficiency in the use of television in the schools.

Since 1964, the increase in teachers (eight-and-a-half times) and pupils (almost 10 times) has been much greater than the increase in schools (more than six times). This reflects a dramatic rise in the use of television in each school. Let us look more closely at this, for it is a good illustration of how a project of this kind can become more efficient as it expands. Only a small part of this increased efficiency can be attributed to the adding of new courses in 1965 and 1966, simply because the majority of classes who use any television for their grade use all that is offered. Thus, the adding of courses did not by itself increase the number of teachers and pupils using television markedly, since one or more televised courses were presented for each grade from the beginning. The increased efficiency is attributable to two other factors: a) the repeating of the telecasts for some courses, which had the same effect as doubling the capacity of the viewing room or adding a TV set and viewing room to each school, and b) increasing care in selecting schools for ETV, so that they were large and had all five grades (many Colombian schools omit the fourth or fifth grades because parents let their children drop out to work). By these means, the ETV Project has obtained greater use of television at no increase in the cost of expanding the number of schools with TV in the receiving network.

Overall, the increase in efficiency can probably best be seen by comparing the number of teachers and pupils per ETV school for 1964 and 1966. In 1964, there were about five teachers and 190 pupils for each ETV school. In 1966, these figures increased to about seven teachers and 280 pupils. Except for a few schools so large that they are really several schools combined, there is only one TV set for each school, so that "per ETV school" can also be looked on as "per TV set."

The greater increase in pupils (almost 10 times) than in teachers (eight-and-a-half times) since 1964 reflects the same kind of increase in efficiency, in this case attributable to more care in selecting schools with larger classes. However, the key to efficiency is not large classes alone. This would be true only if there were one TV set for each class. With one TV for each school, efficiency requires the selection, when possible, of schools with classes in all the grades and as many classes in each grade as can be found. This makes it possible for the telecasts for all grades to be used in a school, and for the repeating of some to increase the audience (since there are too many classes for all to watch at one time). In practice, of course, larger classes and larger schools have come together.

The details of the three years' expansion can be seen in

Table 1:2:

- In February, 1964, the ETV Project included only Bogota and the surrounding Department of Cundinamarca, and about 200 schools, 1,000 teachers, and 38,000 pupils were using ETV. By the end of this first semester, about 360 schools, 1,800 teachers, and 68,500 pupils were using ETV.

- For the second semester of 1964, the project expanded to the Department of Tolima, and by its end about 500 schools, 2,500 teachers, and 97,000 pupils were using ETV.

- During 1965, the project expanded to the Departments of Antioquia, Boyaca, Caldas, and Atlantico. By the end of the year, about 925 schools, 7,000 teachers, and 260,000 pupils were using ETV.

- During 1966, the project expanded to the Departments of Bolivar and Santander. By the end of the year, about 1,250 schools, 8,500 teachers, and 350,000 pupils were using ETV.

The installation and maintenance of the TV sets has been largely the responsibility of Peace Corps Volunteers, although helped by Colombian counterparts. Schools have been selected largely by Volunteers, although they have worked in close conjunction with local school officials. In both installation-maintenance and school selection, the role of Colombians has grown markedly since 1964, and by the end of 1966 was approaching independence of the Peace Corps in the areas then covered by the project. As mentioned previously, expansion has been by separate agreement with each Department, since the schools are administered on a Department basis. By the end of 1966, there were in each Department Colombian officials---special school supervisors---responsible for managing the ETV school network, and Colombian technicians for installation-maintenance.

In each school, the TV set is placed in a room designated for viewing, and classes shift in and out to watch the telecasts for their grade. For Colombian teachers, such room changing is new. So is the strict adherence to schedules required by ETV. Few schools are tightly enough organized so that the ways things are done can be changed quickly or smoothly. As a result, the utilization Volunteers have spent much of their time shaping the school's schedule to ETV.

Every Colombian school is not a good risk for ETV. The Peace Corps has set a number of criteria for schools: a) adequate wiring; b) regular electrical service; c) satisfactory viewing facilities; d) security against theft; e) most or all of the five primary grades; and, f) explicitly expressed desire to participate in the program. Even with intense desire, not many schools can premeet all the other criteria readily. Wiring and electricity, previously unimportant, are the responsibility of the local government. Very often, seating is insufficient; curtains are missing; and there is no money to build a stand to place the TV above seat level. Helping schools to meet criteria---by making suggestions, finding outside sources for assistance, organizing work groups, and an infinite variety of individually applied pressures---has been a principal part of the utilization Volunteer's job.

Initially, the Peace Corps expected the utilization Volunteer to be primarily concerned with teaching methodology---the pedagogic use of TV. Although this has been important, he has been at least equally concerned with the practical problems of making ETV viable in each school, so that the television could become available to the pupils. This part of the utilization Volunteer's role has been a necessary and critical one for the success of ETV. At one time ostensibly solely a teaching consultant, the utilization Volunteer actually also has been concerned with "school development" in a way analogous to the concern of other Volunteers with "community development."

After an agreement is reached with a Department, establishing ETV in a community has become a four step process for the Peace Corps---inspection, introduction-orientation, establishment, and phase-out. In the first, schools are inspected and designated for ETV; in the second, TV sets are installed, training sessions conducted for teachers, and televised instruction begins; in the third, ETV is made a working reality in each school, so that there is regular on-schedule viewing under good physical conditions and regular complementary teaching ("motivation" and "follow-up") by classroom teachers; in the fourth, responsibilities are transferred to Colombia people to keep the system going, and the Peace Corps Volunteers move to another place to begin again. The criteria for phase-out are: a) regular on-schedule viewing b) under good conditions, with c) regular, meaningful complementary teaching by the classroom teacher. The time and attention required from the utilization Volunteer before these are met varies from school to school. On the average, the time between inspection and phase-out for an area has been one semester (February-June, or July-November).

On the surface, it would seem arguable that expansion could have been much more rapid if the Colombian government had provided the promised 50 utilization counterparts to work with the Volunteers. We are not so sure. This Volunteer program required a great deal of adjustment and adaptation to conditions in the field before it began to approach its potential effectiveness. The concern with systematic pre-ETV orientation of teachers, careful school selection, and "school development" came only as the result of finding it unexpectedly difficult to make ETV work at the school level. Moreover, the unexpectedly great demands on the Volunteer's knowledge of teaching led to greater emphasis in Volunteer selection and training on education, so that the Volunteers could function more effectively as teaching consultants. We doubt whether counterparts could have been successfully integrated into the program during its first year.

At the same time, one of the lessons of the ETV Project is that utilization is a critical function. Without it, ETV may exist in name and telecast, but not in real education. In adapting to the absence of counterparts from the national government, the project has obtained from each Department the appointment of two special ETV supervisors. This may or may not be sufficient to maintain the system. It would certainly be insufficient to expand further on a large scale. Thus, the growth of the receiving network depends directly on the number of utilization Volunteers---or other persons, such as Colombian counterparts, with the same job---at work.

Any future ETV project of this magnitude also should ponder the very real gain in efficiency achieved over time by the Colombia project. The price of inexperience and rapid building of a beginning network could be looked upon as the difference in efficiency at the beginning of 1964 compared with that at the end of 1966. If it had begun with the degree of efficiency of 1966, the project would have begun with about 1,360 teachers and 48,000 pupils using ETV, instead of 1,000 teachers and 38,000 pupils. This simple counting ignores the also important but less easily measurable greater smoothness of operation in each school brought by greater concern with the network---itself a valuable gain. At the same time, it assumes the feasibility of beginning the project with some of the innovations---such as closer school inspection, and repeating some telecasts---which led to increased efficiency. However, it underlines a very important point---that close study of what is actually going on in the receiving schools pays dividends.

The Personnel

We will now look in detail at the Peace Corps and Colombia team working in the ETV Project---its numbers, distribution, and the relative roles of Peace Corps Volunteers and Colombians. In doing so, we will be giving a fuller picture of how the project has functioned. We will also be giving some idea of size of staff required for a project of this size and kind, and providing evidence on a very important issue---progress toward independent Colombian operation.

We should caution that our figures must be considered as estimates. It is difficult to account for personnel exactly in a project of this kind, because some people may be dividing their time between it and other activities while others may work full time in it for only part of a given period. This applies to both Volunteers and Colombians. We have made our estimates on the basis of full time persons or the equivalent, with the contributions of part time persons combined to make up their full time equivalent. Thus, they give the full time roles being fulfilled in a particular period, although slightly more individuals may have been involved. We cannot guarantee that someone else making the same kind of estimates would arrive at exactly the same figures, but we doubt that their figures would differ to any important degree.

We will begin with a look at the project as a whole, and the persons engaged in its principal functions---production, utilization, and installation-maintenance. The full staff of the project, from 1964 to 1966, can be seen semester by semester in Table 1:3. We would like to call attention to certain aspects of this table:

- The size of staff. Over the three years, the total has ranged from 99 to 140, the number of Volunteers from 66 to 88, and the number of Colombians from 22 to 52. The total involved in getting the project started in 1964 was 99 persons---77 Volunteers and

Table 1:3 Peace Corps and Colombia Persons in Production, Utilization and Installation-Maintenance

	Semester of the ETV Project					
	1 Feb-Jun 1964	2 Jul-Nov 1964	3 Feb-Jun 1965	4 Jul-Nov 1965	5 Feb-Jun 1966	6 Jul-Nov 1966
Production:						
Peace Corps	24	14	12	18	16	16
Colombian	17	19	20	24	25	25
Total:	41	33	32	42	41	41
Utilization:						
Peace Corps	45	48	48	47	47	67
Colombian	--	3	10	12	12	13
Total:	45	51	58	59	59	80
Installation-Maintenance:						
Peace Corps	8	6	6	6	6	5
Colombian	5	9	10	13	13	14
Total:	13	15	16	19	19	19
Total:						
Peace Corps	77	68	66	71	69	88
Colombian	22	31	40	49	50	52
Peace Corps and Colombians combined	99	99	106	120	119	140

22 Colombians. The number of Volunteers who have worked in ETV through the end of 1966 is actually much greater than the number for any one semester, since the first Volunteers were replaced when their terms ended, and others have been added to the project at various times. The total number of Volunteers at this writing is about 83. Since the project began, well over 170 Volunteers have worked in ETV at various times. We doubt whether the project could have operated on the scale it has with fewer persons, either Volunteers or Colombians, at any period.

- The make-up of the staff. From the beginning, almost half or more have been in utilization. The number has ranged from 45 to 80. Only a relatively small proportion have been concerned with the technician's job of installation-maintenance. The number has ranged from 13 to 19. The number in production, which has ranged from 32 to 41, has always been considerably less than that in utilization. At the end of 1966, there were two persons concerned with utilization for every one person in production.

- The great and increasing emphasis given by the Peace Corps to utilization. Of the Peace Corps Volunteers, the proportion in utilization ranged from about two out of three at the beginning to almost seven out of eight at the end of 1966.

- The relatively sizable proportion of Colombians in production even at the beginning. Of the 41 persons in production in the first semester of 1964, 17 were Colombians. Of the 33 in production in the second semester of 1964, 19 were Colombians. Since this time, they have comprised the majority of the production team. We should add that these figures include cameramen, technicians, and other necessary studio help, as well as television teachers and producer-directors.

- The initial absence and later increase in Colombians concerned with utilization. Because the national government did not provide the 50 counterparts for the Volunteers as expected, there were none when the project began. As the result of agreements with the individual Departments, there were 13 by the end of 1966---although it should be noted that these persons, as school supervisors, were working on a somewhat higher administrative level, and were more concerned with maintaining an existing program instead of building up a new one, than the kind of Colombia utilization workers initially envisoned.

- The growth in participation by Colombians in the project. In the first semester of 1964, 22 out of 99, or about 22 per cent, were Colombians. In the final semester of 1966, 52 out of 140, or about 37 per cent, were Colombians. It should be noted that this growth occurred even though the Peace Corps somewhat increased the total number of Volunteers in the project, requiring Colombian additions even to keep pace.

At this point, we should probably emphasize that all the Colombians have not merely been Colombian nationals. They have been salaried on Colombia payrolls. Thus, the numbers of Colombians represent very real participation in the project.

We will now look in detail at the staffing of production and utilization. There is no more detailed breakdown of the installation-maintenance staff, since all had the same job---installing and maintaining TV sets in schools.

The more detailed breakdown of the production staff from 1964 through 1966 is shown in Table 1:4. In this table, we would like to call attention to the following:

- The change in division of labor between Volunteers and Colombians in program responsibility. Initially, all producer-directors were Volunteers, while all television teachers were Colombians. By the second semester of 1965, there were four Colombian producer-directors. As noted before, these producer-directors were trained by the Volunteers whose roles they assumed, and nine of the 16 courses televised for primary school pupils in 1966, as well as adult material in literacy and health, were turned out by them.

- The sharp drop in number of Volunteers working "in support" of the television teacher after the first semester of 1964. This reflects an important change in the organization of production. Most of the original group of 12 worked with Colombians in preparing scripts, outlining program content, and writing the Teacher Guides. Considerable program content responsibility lay with these persons, and the television teacher was largely a performer. This subordinate role reduced the television teacher's morale, and the division of responsibility led to disputes and a great deal of negotiating to resolve them. It soon became clear that the television

Table 1:4: Peace Corps and Colombian Persons in Production

	Semester of ETV Project					
	Feb.- June 1964	July- Nov. 1964	Feb. June 1965	July- Nov. 1965	Feb.- June 1966	July- Nov. 1966
Personnel: (Total)	41	33	32	42	41	41
Peace Corps						
Tele-teachers[1]	---	---	---	---	---	---
Tele-teacher Support[2]	12	4	2	2	0	0
Producer-Directors[3]	11	9	9	15	15	15
Technical[4]	1	1	1	1	1	1
(Total)	24	14	12	18	16	16
Colombian						
Tele-teachers	4	6	7	7	7	7
Tele-teacher Support[2]	5	5	5	5	5	5
Producer-Directors	---	---	---	4[5]	4	4
Technical[4]	8	8	8	8	9	9
(Total)	17	19	20	24	25	25

---

[1] Television teachers have been Colombian persons.

[2] These include persons clerical as well as staff associates of television teacher, artists, and those concerned with providing display and demonstration material.

[3] Includes film-makers and studio chief.

[4] Includes personnel for cameramen; audio; floor coordinator; lighting; general engineer; tape librarian; video-tape recorder (VTR) operator; and maintenance of studio equipment.

[5] In training under Volunteer direction.

teacher would be more effective and efficient if he were in charge of his material as he would be in a classroom. As a result, responsibility for content and Guides was centered in the teacher, and the Volunteers were assigned to other functions---mostly utilization. The few Volunteers remaining had special jobs, such as supplying art work and displays for the television teachers. The Colombian persons appearing afterwards in this category served under the teacher as assistants with largely clerical duities.

- The strong role of Colombian persons as studio technicians. Except for a Volunteer studio chief for ETV, studio technicians throughout were Colombians.

The more detailed breakdown of those concerned with utilization from 1964 through 1966 is shown in Table 1:5. We have already noted that the initial participation by Colombian persons would have been 50 instead of zero if the national government had met its commitment, and that Colombia participation, as the result of turning to the Departments, had increased to 13 by the end of 1966. We wish to call attention only to one other aspect of this table. This is the increase, as time passed, of the number of Volunteers in a special leadership role---that of "ETV Coordinator." It has an important consequence for planning for this or any similarly organized project.

These "ETV Coordinators" are in charge of the Volunteer utilization program in a particular area---sometimes a Department, sometimes a particular section of a Department. They represent the ETV Project with local officials, coordinate the work of the other ETV

Table 1:5:

Peace Corps and Colombian Persons in Utilization

		Semester of ETV Project					
		Feb.-June 1964	July-Nov. 1964	Feb.-June 1965	July-Nov. 1965	Feb.-June 1966	July-Nov. 1966
Personnel	(Total)	45	51	58	59	59	80
Peace Corps Volunteers							
ETV Coordinators[1]		---	3	5	9	10	11
Utilization Volunteers		45	45	43	38	37	56
	(Total)	45	48	48	47	47	67
Colombians[2]	(Total)	---	3	10	12	12	13

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[1] Volunteer leaders administering utilization Volunteers within specific areas.

[2] Made up of Colombian Supervisors concerned exclusively with ETV in the schools.

utilization Volunteers in the area, watch over the functioning of ETV at the school level, and provide a link for regular two-way communication between the individual Volunteers and ETV headquarters in Bogota. These leaders are necessary because of the difficulties of communication and consequent isolation of Volunteers in the field, and the diversity of areas, each with its own administrative problems, encompassed by the project. We believe they fill an absolutely essential function.

Understandably, as the project has expanded its receiving network, the number of Volunteers required for this role has increased. Even if almost no Volunteers remained in a Department because it had reached phase-out, the need for a Peace Corps ETV representative would probably remain as long as the Peace Corps remained active in the project, if only primarily in a watch-dog capacity and as a symbol of working cooperation with local officials. However, expansion so far has been by sectors within Departments, and no Department by the end of 1966 was completely without working groups of utilization Volunteers. Within Departments, phase-out in one place merely means starting again somewhere else. As a result, the increase in the number of Volunteers needed as "ETV Coordinators" has meant that, as the project has expanded increasingly fewer Volunteers of a beginning number in utilization remain available for full time work in the schools. Thus, the capability of a project of this kind (not unlike most projects) to expand effectively its school network decreases with expansion---unless there are equalizing increases in the total number of Volunteers assigned.

In concluding this discussion of personnel, we would like to draw attention again to the issue of Colombian participation. It has clearly increased since 1964. Moreover, some of the roles fulfilled by Colombian persons at the end of 1966 are critical ones in which Colombian participation had once been absent---such as in utilization, and producing-directing. For the Peace Corps, this is a real and important achievement.

We also think that there is a useful lesson in the pattern which Colombian participation has taken. It has come first and most willingly in the studio---where the need was obvious if there was to be any television at all. Even there, it had to come more slowly where specialized training was required---such as for producer-directors of instructional material. It has come very slowly in utilization---where the need was not at all obvious except to someone with a clear picture of what television might mean to the teacher in the classroom. We suspect that this rough relationship between the obviousness of a need for a role, coupled with availability of trained persons, and a readiness to provide people is typical in developing countries. The lesson, simple and obvious though it is, should not be overlooked: gaining participation in new activities is apt to be slow, and is likely to require more calculated and persuasive effort than for more familiar ones.

Adaptation

The viability of a project is partly a function of its ability to change itself to meet unexpected situations. We have purposely called attention to the importance of such adjustment in the title of this report by using the term "adaptation." It can be defined formally as "change in structure or behavior that has survival value," or "any beneficial change to meet environmental demand."[7] When circumstances vary from the expected, and a project cannot change or adapt, its effectiveness is reduced. It may falter, and die. Any change beyond those initially planned for is an attempt at adaptation, whether successful in the end or not. Here, we would like to review an adaptation on the part of the ETV Project which has profoundly affected its structure, and which gives many signs of being a considerable success.

We refer to the shift of the ETV Project toward ties with Department (state) governments, and away from complete dependence on Colombia's national government. It is the single most important change in the project's functioning during its first three years. It came primarily as a response to the national government's failure to provide the 50 counterpart workers for utilization. Even assuming that the utilization Volunteers could set up an ETV system in the schools without help, who would keep it going once the Peace Corps left completely---either one area or the ETV Project as a whole? If continuing contact with the classroom teachers is essential, who was to provide it for Colombia?

For the Peace Corps, the answer has been to turn to the Departments. This building of local ties began with the Department of Tolima, into which the project expanded for the second semester of 1964. As a condition of joining the project, the Department agreed to provide a special school supervisor for ETV work. A similar policy was followed in Boyaca and Antioquia when the project expanded into them for the first semester of 1965.

Concurrent with the search for Colombia help in utilization, there were difficulties in assuring Colombia maintenance of the TV sets. Presumably, the sets became the property of Colombia's ETV system once installed, and Colombia assumed responsibility for maintenance. In fact, no agency was found or scheme devised for maintenance. No national organization wanted to assume the cost. Again, the Departments seemed a likely answer. As a result, a "package" commitment for utilization and maintenance became a Peace Corps requirement for a Department to join the project.

Under this arrangement, each Department is required to provide two special ETV supervisors, a technician for installation-maintenance, a vehicle, and an annual budget for their salaries and for supplies, parts, and equipment. In addition, the Department provides an ETV office. It is not possible to say exactly when this turning to the Departments changed from ad hoc practice to firm policy. However, it was clearly policy by the end of 1965, the project's second year.

This maneuver has fitted Colombia's political and educational structure superbly. It has fit the organization of Colombian education, which is administered by the Departments, although directed in pedagogical matters---such as the syllabus---by the national Ministry of Education. It recognizes that Department governments may make available funds when the national government cannot or will not. It multiplies the number of separate economic arrangements, making possible compromises and adjustments to fit local circumstances. In each case, it asks for direct support from those actually responsible for the schools which will benefit from the service involved. It also clearly acknowledges Colombia's political and social regionalism, by giving Departments a voice in ETV, and even takes advantage of it by making competition possible between Departments in successfully setting up ETV.

Under these conditions, it is probably not surprising that this adaptation of the ETV Project has worked quite well. Of course, it has not worked perfectly. Every Department, especially those joining the project early, has not fully met these criteria. Sometimes, positions have been filled by unqualified persons for political purposes. Often, the administrative demands of the Department have precluded these supervisors from playing as active or dynamic a part as might be desired. Nevertheless, it has led to a goodly number of Colombian persons active full time in behalf of ETV at the school level. Except for two national Ministry of Education ETV inspectors, the 13 Colombians shown in Table 1:5 as active full time in utilization at the end of 1966 were Department people. Moreover, the actual number of persons involved was somewhat greater, because in some cases people were assigned part time (in the personnel tables, part time work was summed into the full time equivalent).

The 14 Colombian installation-maintenance persons shown in Table 1:3 as active at the end of 1966 also were brought into ETV by the plan. In most cases, vehicles and adequate budgets have been provided.

On a less apparent but equally important level, it integrated the ETV Project into Colombian political life. Expansion into a Department has come to mean the commitment by the governor and his legislature of funds and people. Thus, it has helped to "root" the system.

We have some empirical evidence on the success of the project in making itself more a part of Colombia, of which this shift toward the Departments has been an important part. During our two years of gathering data in Colombia, we conducted several surveys of teachers who were teaching with ETV. We cover these fully in some of the other reports in this series. Here, we will present only some data bearing on this issue.

In our surveys, we asked the teachers to choose from a check-list of persons and agencies associated with ETV those to which they would direct a complaint, comment, or suggestion about ETV, if they had one. We view the replies as reflecting the teachers' perception of who has a meaningful say in the project, much as the same kind of replies about political entities would reflect a group's perception of who has an influential role in regard to some public issue. In Table 1:6, we present the results from a survey at the end of the project's first semester (February-June) in 1964 and from a survey at the end of the second semester (July-November) of 1965. In the first survey, when there was little Colombian activity at

Table 1:6:

Persons and Agencies to Which Teachers Say They Would Direct a Comment, Complaint, or Suggestion About ETV, in 1964 and 1965

	Per Cent Citing Person or Agency in Survey of	
Person or Agency	End of 1st Semester (Feb.-June), 1964	End of 2nd Semester (July-Nov.), 1965
Peace Corps Volunteer	84.9	61.7
Special Department ETV Official	*	46.1
Regular District Supervisor	11.9	26.0
School Director (Principal)	11.1	25.0
Instituto de Radio y Television	13.1	23.7
Television Teacher	**	15.0
Ministry of Education	3.5	4.3
Ministry of Communication	**	1.9
N =	250	1,884

*position not created until later

**not included in checklist in this survey

N = Number of teachers responding to survey on which per cent is based the school level, the Volunteer was overwhelmingly the dominant choice. About 85 per cent chose the Volunteer, and the second choice, the Instituto de Radio y Television, was named by only about 13 per cent (teachers could choose as many as they wanted). At this time, of course, the special local Colombian ETV officials did not exist. This singular choice of the Volunteer may have been understandable and gratifying, but it could hardly be considered a sign of success in making ETV a Colombian undertaking. In the second survey, which took place after the Departments had become involved, three things stand out. One is that far fewer---about 62 per cent---choose the Volunteer. Another is that, except for the Ministry of Education, far more choose Colombian persons or agencies. The Instituto rises from about 13 to about 24 per cent, the regular district supervisor from about 12 to 26 per cent, and the school director (principal) from about 11 to about 26 per cent. A third is that the special Department ETV official is chosen by a substantial number---about 46 per cent---and stands second only to the Volunteer.

We interpret these results as indicating decreased reliance by teachers on the Peace Corps in the ETV Project, increased reliance on Colombian persons, and marked success for the special Department official as a local ETV representative. We think they constitute evidence of valuable gains in making ETV a Colombian activity at the school level largely attributable to building ties with the Departments.

In the second survey, we also asked teachers whom they talked with regularly about ETV. About 19 per cent, or almost one out of five, said they talked regularly with the special Department official. Given the fewness in their number, and the relative isolation of many teachers in small communities many hours from Department capitals, we think this indicates considerable grass roots activity on the part of this official.

We would like to make one other observation about Table 1:6. We think the strong tendency of the teachers to name persons working with them locally, such as the Volunteer or special Department official, rather than distant persons or impersonal agencies, indicates the very real importance for the ETV Project of maintaining someone as a representative at the local level, working closely with teachers and school officials. It is a local tie to which they prefer to turn, and it is through such ties that they can be made working participants in ETV.

Of course, the shift toward local ties was not the only noteworthy adaptation made by the ETV Project. We have mentioned several of the others in the course of this report. Because adaptation does reflect viability, we will review them briefly here. They include, in regard to the production of the telecasts, the centering of responsibility for the instruction to be televised in the television teacher (rather than dividing it between him and writer-planners), the constant re-doing of the televised courses to improve them and meet the criticisms of classroom teachers, and the change from general topics to "short courses" in basic school subjects in the televised in-service training for teachers. They also include, in utilization, the more careful selection of schools for ETV, the emergence of "school development" as an essential part of the Volunteer's role, and the development of the "ETV Coordinator" role for Volunteers to provide for close administration locally of utilization. All of these represent efforts to deal better with problems encountered while the project was functioning. In our opinion, all did improve operations. In a slightly different category, because they were planned for from the beginning, are the increases in the televised curriculum and the expansion of the receiving network of schools. However, both of these also represent changes in the project during its first three years which have greatly added to its strength.

All in all, and although the issue is not one on which it is possible to offer empirical evidence beyond these facts themselves, we believe, on the basis of our close observation of the project, that the ETV Project has reacted flexibly and with success to the demands made of it. In short, we have found many signs of its viability.

Problems Faced by the ETV Project

We now turn to the major problems the ETV Project has faced. Certainly, we would fail to give a full picture of the project if we did not do so. However, we are not motivated solely by a desire to be thorough. We think the problems are important for understanding the project and the job it has been doing, and for the planning of similar undertakings---by the Peace Corps or any other agency---in any of the world's developing countries.

The problems are of unusual interest because they relate so directly to the circumstances of taking on this kind of task in a developing country. They are not merely irritating contretemps, but part of the job itself. In some cases, they may not seem to differ much in kind from the difficulties a large scale ETV project might have even in the most developed of countries. Any such project, anywhere, would certainly suffer through some unexpected frustrations in production, failures in transmission, and difficulties in the schools. We would be surprised if it did not. However, the economic and social conditions of developing countries so increase the severity, frequency, and pervasiveness of these and other disruptions that, by their new magnitude, they truly become problems peculiar to the environment. This happens simply because bringing ETV to a developing country means transplanting technology, methods, and concepts which evolved over time in a highly advanced society to one in which they have no natural roots.

We believe the problems of the ETV Project in Colombia are fairly typical of those which any developing country might well encounter in the launching of an educational TV program. We think they should play a critical part in the preparation for any such undertaking, for while they cannot be avoided, they sometimes can be mitigated by looking ahead. We think this is particularly important for those that are less obvious but subtly pervasive, such as the slow giving of full host country commitment to ETV, and the ready support and cooperation it implies. In brief truism: "Forewarned is forearmed."

Many of the problems have already been mentioned in the course of this report and, of course, they are reflected to a great extent in the project's adaptations. Many, too, come up in the other reports in this series when they bear on the particular study being covered. Here, the major ones are brought together under a few headings.

Problems in Getting Television to the Classroom: During the project's first year and a half, television production and transmission were severely hampered by a variety of factors. As a whole, these can largely be summed up as the consequence of the low state of the craft represented by the staff and facilities of the Instituto, the national television agency. However, the grafting on of a large scale activity to an on-going organization also played a part.

In the studio, there were frequent technical breakdowns, attributable to the age, poor maintenance, and sometimes careless operation of equipment. The Colombian technical staff was diverted to ETV on a vague, part-time basis from the Instituto's commercial operations. Cooperation often was haphazard and minimal. Studio organization was inefficient, and lines of authority for ETV unclearly drawn. Professional standards, by comparison with the U.S., were low. The sharing of facilities with commercial operations led to squabbles over priority, long waits to use studios, and the frequent need to abruptly terminate an activity before it was completed. The heavy production schedule and deadlines of ETV were unfamiliar, and to the Colombians may have seemed unreasonable. Transmission equipment did not always function properly. As a result, the job of getting television to the classroom was unusually frustrating and difficult for the Peace Corps.

- Production time often was far greater than expected. Volunteers with previous studio experience have estimated that during these early months production required at least half again as much time as it would under "normal" (or U.S.) conditions.

- Errors sometimes occurred in putting the video-taped programs on the air, with times missed and wrong programs telecast.

- Breakdowns of transmission equipment, at the central transmitter and at relay points, often reduced sound and image quality and sometimes halted telecasting entirely.

The greater time required put the production staff under great pressure. Understandably, it put quality and educational goals second to quantity and meeting deadlines as criteria of success. This promoted an ethic among the Peace Corps team, although admirable in itself and well suited to overcoming practical barriers, that conflicted with educational goals when there was less time pressure. In the schools, the errors and breakdowns in telecasting led to great consternation. When they occurred, both teachers and utilization Volunteers were disheartened. Thus, the studio and transmission problems in turn slowed the progress of ETV even at the point of reception.

In the past year and a half, there have been great strides in ridding ETV of these problems. Certainly by the end of 1965, the project's second year, most of the difficulties had been eliminated.

The studio was functioning smoothly. ETV had built up its own staff. Among the Colombians, organization and administration were relatively effective. The Instituto, because of ETV, had largely shored up its transmission facilities. In addition, the ETV Project moved into its own new studios at the end of 1966. When the new AID-provided equipment is fully "shaken down," we see no reason to think that ETV production and transmission will not approximate U.S. standards.

Problems in Making ETV Work in the Schools: As we have pointed out, the utilization Volunteers originally were viewed by the Peace Corps primarily as consultants in teaching methodology. However, the ubiquity and seriousness of what might be called the logistic problems of ETV soon made "school development" part of their role. As this implies, the problems in making ETV work in the schools divide readily into these two categories.

In his role as a "school developer," the Volunteer is concerned with solving the problems in each school created by ETV, so that television becomes available to its pupils. To dramatize the seriousness of these problems, we will present a few results from one of our teacher surveys. Here is what a sample of over 1,800 teachers had to say at the end of 1965 about their ETV problems:

In regard to electrical power, about 39 per cent said that electrical failures, either in the school or community, prevented pupils from receiving the television at some time.

In regard to school facilities, about 39 per cent said that there were not enough seats for the pupils to view comfortably, and about 33 per cent said the viewing room had not yet been made dark enough.

In regard to school organization, about 33 per cent said that the changing of rooms necessitated by ETV caused great confusion in the school, about 27 per cent said the viewing room often became too crowded for attentive viewing, and about 25 per cent complained that there seldom seemed to be enough time for any "motivation" or "follow-up" teaching.

In regard to using the TV set, about 20 per cent said that it was too complicated for them to adjust satisfactorily.

These are only some of the more frequently reported of the common problems teachers encounter in using ETV. The figures, which support what we have seen in the schools, suggest that these "logistic" problems can be ignored in this kind of project only at the peril of effectiveness, for the best television conceivable can hardly have much impact if it is not viewed, or cannot be viewed attentively.

We give close attention to the school problems and the effectiveness of the utilization Volunteer in reducing them in another report.[8] However, we would like to note here that there is considerable evidence that the Volunteer has had definite success. This is one reason why we feel his role is so important to this kind of project. We would also like to add that, on the whole, we have seen notable progress in eliminating these difficulties from the schools.

In his role as a teaching consultant, the Volunteer is concerned with insuring regular "motivation" and "follow-up" teaching with each telecast, and with making that teaching as modern and effective as possible. Although the teachers on the whole have been very eager to use television, there has been considerable resistance among them to changing teaching methods. In Colombia, rote memorization is the common mode of instruction, and the temptation is great among teachers simply to select facts from the telecasts amenable to this dreary treatment. It is also tempting to let television do all the teaching, and to retire into maintaining discipline---a common problem in the overcrowded and ill-equipped schools. In our research, we compared the effectiveness of various strategies for overcoming this teacher resistance, and examined its psychological dynamics, and we present the results in another report. Here, we merely wish to emphasize that getting teachers to really teach with television, and to do so effectively, has been one of the project's greatest challenges, and one that will probably remain long with it. This is another reason why we believe the utilization Volunteer fills an important role.

Disruption From External Factors: By its very nature, the ETV Project is part of ongoing activities outside its control. Sometimes, the result is the unexpected disruption of ETV. Although we take it up shortly again in another context, the economic and financial problems which figured in the government's failure to provide the utilization counterparts might be looked upon in this way. We will also cite two other examples.

The first concerns the solvency of the schools. Several times, schools in various areas covered by the project have been closed by teacher strikes over non-payment of salaries. Such a semester-long strike delayed the introduction of ETV into the Department of Boyaca by six months, from mid-1964 to the beginning of 1965. At other times, teacher strikes have closed schools more briefly in Boyaca and elsewhere.

The second concerns the solvency of the Instituto. When the video-tape heads---which are as necessary to telecasting as a needle is to a phonograph---were sent to the U.S. for routine maintenance during a school break in mid-1966, the manufacturer refused to return them until large outstanding bills incurred by the Instituto in its commercial operations were paid. As a result, ETV was off the air for over a month.

Both of these disruptions constituted very real penalties for the Peace Corps, because they meant loss of time working in the schools for the utilization Volunteers. The effect was to reduce the number of maximally productive work days in the year in utilization. Even when a strike affects only a relatively small area, it involves some loss, since uncertainty over the end of the strike prevents wholesale transfer of Volunteers. Of course, a complete halt in telecasting rules out even the possibility of transfer, since there is no television anywhere. It also has another severe penalty. This is the loss of confidence in television among the classroom teachers. To them, a halt simply seems to demonstrate its ephemeral character.

The Problem of Gaining Commitment: Probably the major difficulty the ETV Project has faced has been the gaining of full commitment to ETV from Colombian persons and agencies. By this, we do not mean just a favorable attitude. We mean, in addition, a readiness to accept responsibilities for making ETV work, along with the cooperation and support that implies. This is a problem that would be likely to trouble any kind of new, large undertaking in a developing country. It is also a problem that is difficult to pinpoint. It lacks the concreteness of an equipment breakdown, or a disorganized school. However, it is not the less important for that. On the basis of our two years in Colombia with the project, we feel that this has affected progress at every level and in almost every sphere.

It is most dramatically exemplified in the failure of the national government to provide the utilization counterparts, which prompted the project to develop Department ties. However, it has also probably made more arduous every step the project has taken. It has figured negatively wherever Colombian support and cooperation have been involved. This includes the studio, the schools, the Department governments, the Instituto, and the national Ministries of Education and Communication.

The sources of the problem are easy to locate. In a developing country, economic crises, financial shortages, unexpected changes in government and policy, and failures of complex equipment are common. The leftovers of ambitious schemes---half-finished buildings, facilities converted to other uses, officials with dwindling functions---are about for everyone to see. Projections, often because of events beyond the control of the planners, frequently exceed capabilities; the burst bubble is a fact of public undertakings. When a project is instituted with extensive outside help, as was the ETV Project, there inevitably will be some doubt on the part of nationals about its future once that help ceases. Added to this, in Colombia's case, of course, is its history of two abandoned efforts in ETV. Unavoidably, the climate is one of unhealthy scepticism.

Such an environment has serious, if unavoidable, consequences. At the top levels, talented and skilled people are doubtful about risking their careers---either by decisive support or acceptance of active roles---in the new undertaking. Major agencies of government give no more than tacit support. A project is left on its own until it proves itself. At lower levels, people wonder about the permanence of any jobs offered, and give preference to alternatives. In the case of the ETV Project, there is doubt among teachers in the schools whether it is worthwhile going to much trouble for the new system, simply because it may not be with them for long. As a result, support and cooperation often is based at best on a suspension of cynicism. They do not come unstinted, and may often be halfhearted.

Now, we certainly do not wish to suggest that there has not been any Colombia support or cooperation. Quite the contrary. There has been a great deal, and it has steadily increased since the ETV Project began. This is reflected in the figures showing an increase in Colombian participation, presented earlier, and the growth of the televised curriculum and school network. Since 1964, we feel, there have been steady and important gains in winning commitment. However, we do want to emphasize that under the existing conditions it only comes very slowly. This is a major reason---and one apart from logistic problems---why this kind of project takes a long time to establish firmly, and can seldom simply be set up and turned over to eager host country hands within a few months.

This imposes special burdens on a television project. For example, it means that failures or interruptions in daily operation will do damage beyond their immediate effects, because they imply weakness and impermanence. They confirm scepticism. How can the classroom teacher---or anyone else---be expected to believe that ETV will be functioning a year away if he cannot feel certain that it will work tomorrow or the next week? It also means that shows of permanence---such as long-term working agreements---and displays of support---such as the endorsement given ETV by Colombia's president when the project began---are especially important.

Economics of ETV

The cost of providing a service is an important factor in evaluating any kind of public undertaking, although whether any given cost is satisfactory or excessive must, to some extent, always be a matter of opinion. How much does it cost to provide televised instruction in Colombia? What is the cost of adding to the television schedule? Of expanding the school network? We must caution that the answers we are able to provide will be at best rough estimates.

2

We are able to give a picture of these costs because a UNESCO team included Colombia in a series of "case studies" made in 1965 of the "new media"---such as radio and television---in education in various countries. They have kindly made some of their data on Colombia available to us so that we may include it here. However, we would urge anyone interested to look at their full reports, for we will present only some highlights.[9]

We will focus on what we believe is a meaningful cost figure---the cost of providing the service in terms of the user. This will be given as the cost of providing one hour of televised instruction for one pupil---the "cost per student hour." We will include estimates of operating costs only because they are the basis for such a calculation, but we will not give them special attention.

There are many difficulties in obtaining accurate cost figures for "new media" projects. They include the frequent lack or unavailability of detailed records, the sharing by many activities of the same buildings, equipment, and personnel, and variations in rates of currency exchange. The consequence is that any figure, no matter how painstakingly derived, can only be a rough---if good---estimate. The UNESCO study was made at the end of 1965, and the estimates are based on the project as it was at that time.

Cost Per Student Hour of Televised Instruction: The estimated cost of delivering one hour of televised instruction to one pupil, along with the annual operating costs, is shown, in U.S. currency, in Table 1:7. The figures do not include basic capital investments, but do include charges for capital---depreciation, and notional

Table 1:7:

Estimated Annual Operating Costs (based on 1965 data) of Several Projects (in thousands of U. S. dollars*)

	Production	Distribution	Reception	Total	Cost to deliver 1 hour to 1 user (in U.S. cents)
Projects					
"A"	192	2,094	800	3,086	9
"B"	908	446	79	1,433	59
"C"	349	161	53	613	20
Colombia	233	312	190	735	5

Breakdown of Operating Costs for COLOMBIA School Television (1965)

Type of cost	Production	Distribution	Reception	Total
Staff salaries	105	111	82	298
Other expenses	17	26	24	67
Total operating costs	122	137	106	365
Capital charges				
Depreciation	76	92	60	228
National interest	35	83	24	142
Total	111	175	84	370
Total current costs	233	312	190	735

*exchange rate at the time: $1 (U.S.) = 18.5 pesos Col.

interest. For comparison, there are also figures for the three other large scale "core" instruction television projects included in the UNESCO study. Since the UNESCO team had not fully refined their figures (including those for Colombia) at this writing, we will not identify these by name since their costs are not of direct concern here. We must also caution that comparison is possible only on a very crude level, since these projects differ in many ways that have some bearing on their costs.

As can be seen, the cost in 1965 of delivering one hour of television to one pupil was estimated as about 5 cents (U.S.). This means that the cost of an hour of television---in Colombia, four 15 minute lessons in one subject over a two week period---to a class of 40 pupils was only $2(U.S.). It can also be seen that the Colombia per student hour cost was much lower than for the other projects.

Thus, the 5 cent figure is not only low in absolute terms, but also by comparison. To a great extent, this results from the large school network possible in Colombia, with its many public schools, one language, large area, and national syllabus. The cost, then, attests to Colombia's basic suitability for ETV.

We must point out that the UNESCO estimate includes costs for the Peace Corps Volunteers, but at the rate Colombians performing the same jobs would be paid. This means that this cost figure would hold if Colombia staffed the project entirely, providing a replacement for every Volunteer. For Colombia, this figure is a true (if rough) estimate of what televised instruction costs.

If the actual costs of the Peace Corps are considered, the UNESCO team estimates that the total annual operating cost would have increased by about $430,000. This would increase the per student hour cost to about 7.5 cents (U.S.). The cost for four lessons over two weeks for the hypothetical class of 40 would then become $3 (U.S.). Thus, even taking into account true Peace Corps costs the absolute and the comparative costs remain low.

Costs of Increasing the Television Schedule and Expanding the School Network: The amount of television reaching users can be increased either by installing TV sets in new schools or producing more television. The per student hour costs for each of these modes of growth are shown in Table 1:8. These are the costs of adding to the project at the stage it had reached by the end of 1965. They assume no change in the basic cost structure associated with expansion, and personnel costs are in Colombian terms.

The cost of expanding by adding new TV sets is estimated at .8 (eight tenths) cents (U.S.) per student hour gained. By increasing the television schedule, it is estimated at 1.9 cents (U.S.).

What is most striking about these figures is not their standing in relation to each other---for it is no surprise that expansion, even when calculated on a per student hour basis, would cost relatively more by increasing programming, for television production is costly---but how low both of them are. This is true both in absolute terms and in comparison with the other projects. These low figures are a dividend of the ETV Project's growth. Because the receiving network is quite large, new programming can increase the

Table 1:8:

Estimated Cost Per Student-Hour of Increasing Programming or Adding TV Sets, with Related Data

	Average cost in dollars*		Student hours generated at present conditions		Cost per student hour generated by	
	per hour of new instruction	per additional TV set	per hour of new instruction	per additional TV set	expanding programing(cents)	increasing TV sets (cents)
Projects						
"A"	2,113	178	49,580	7,820	4.3	2.3
"B"	545	225	1,200	6,020	45.4	3.7
"C"	160	238	1,300	4,110	12.3	5.8
Colombia	814	128	43,460	16,180	1.9	0.8

*exchange rate at time: $1 (U.S.) = 18.5 pesos Col.

quantity of television in use at a very low cost per student hour. Because the television schedule already is extensive, each new set provides a large quantity of television, again resulting in a very low cost per student hour. Thus, the project's development has made the cost of bringing more television to children very low, and the figures reflect the snowballing economic benefits of undertaking instructional television on a large scale.

We should emphasize that the relative standing of the figures does not constitute an argument against expanding by increasing programming. Instead, the low cost of expanding by either means would seem to recommend both kinds of expansion. Furthermore, the make-up of programming must be based on educational as well as economic criteria. We must also point out that each kind of expansion buys something different in Colombia---new TV schools bring television to more children, while added programming increases the television of children already receiving it.

These UNESCO cost estimates give a very favorable impression of the ETV Project's economics. When measured in terms of the service provided, the costs of the job done and of expanding seem to be low---both absolutely, and by comparison. Economically, the record appears to be good.

Colombian Views of ETV

At the end of 1965, as we were finishing our two years in Colombia with the project, we interviewed the top echelon of Colombians directly associated with ETV in Bogota, the project's center of operations. We wished to learn how these people looked upon ETV after two years. We asked them to evaluate its success, pick out its flaws, suggest improvements, and predict its future.

We talked to 16 of the top Colombian ETV persons---all whom we could reach. Included were five television teachers, four special ETV supervisors headquartered in Bogota, three major television executives, and four members of the Instituto's governing committee. Each interview ran from one to two hours. As a basis for probing and discussion, the same set of questions was used for all and, in order to obtain empathy and insure honest replies, all the interviews were conducted by a Colombian on our staff.[10]

We found that all had a favorable evaluation of the project, although perspective and knowledge differed sharply. Among those working actively in the project---the television teachers, special supervisors, and executives for ETV---we found not only enthusiasm, but an honest interest and concern with changes that would help them be more effective in their jobs. Those who had worked closely with Volunteers felt they had made valuable contributions. Their principal criticism of the Volunteers was their language skill. All expected the project to develop and expand, and that shortcomings eventually would be eliminated. Although views differed somewhat, a rather general picture of goals and priorities emerged for those who had worked actively in ETV: a) completion of the televising of the elementary school curriculum by adding courses, accompanied by the revising of previously taped material; b) expansion throughout the country, especially to remote areas; and, c) extension of televised instruction to the secondary and university level.

The Television Teachers: The five television teachers had a number of practical suggestions for improving their effectiveness. Frequently mentioned was further training in television teaching. Of the five, only one had had any media experience prior to ETV, and that had been in radio announcing and production. This person had a Colombian teaching degree, but no prior teaching experience; the other four had all been schoolteachers. They had very realistic desires---intensive courses several weeks' duration in television instruction taught by professionals. Another suggestion was the building of an ETV instructional library, with books on television, teaching materials, sample courses and teaching guides, and the like.

They also suggested a petty cash fund for the purchase of minor items needed in their work. Because ETV is a part of the Instituto, it did not have access to funds of any size without a long wait while a voucher was processed, and this was undeniably a bar to efficiency.

As a whole, the television teachers thought ETV had aroused new enthusiasm for education among schoolteachers, had stimulated them, and had given them a needed base around which to plan their teaching. They thought teaching aids probably were being used more often and better in the schools, both as a result of the programs and of the efforts of the utilization Volunteers. They felt, too, that the pupils had learned more because of ETV. They thought that many schoolteachers had been suspicious of ETV at first, but that this had largely disappeared with experience.

They felt the Volunteers had made very valuable contributions, but thought that language had been a serious problem. Each had worked closely with one or more Volunteer producer-directors over long periods of time, and had established close and rewarding relationships. Because of their lack of special training, all had learned about television teaching from the Volunteers. They were not without criticisms, however, one complaining that the studio Volunteers had irritating attitudes of superiority, and another that the Volunteers failed to grasp the problems of Colombian teachers. One the whole, they were very favorable toward the Peace Corps.

Special ETV Supervisors: These four, working in Cundinamarca and Bogota, had assumed their administrative roles in ETV long after television had begun in these areas. Probably as a result, they found some problems in gaining cooperation from principals and higher officials. They felt ETV had been a success in much the same ways as did the television teachers.

Like the television teachers, they also had some practical suggestions. They felt lack of a vehicle hampered their visiting schools. They felt the Teacher Guides, which their classroom teachers were to use, could be greatly improved. They also felt that additional instruction on a broad basis of schoolteachers in teaching with ETV was necessary.

They felt the Volunteers had been a great help in visiting schools, orienting teachers to ETV, promoting visual aids, and arousing enthusiasm in individual teachers. They also complained about the language skills of the Volunteers with whom they had worked.

The Television Executives: The three included the subdirector (second in command) of the Instituto, and the directors for ETV pedagogy and for television programming. We found the Instituto official to be little concerned with ETV outside of its effect on Instituto facilities, while the ETV executives were completely concerned with ETV.

The two ETV executives felt that ETV had been a considerable success. As one of them summarized:

"There have been good results in the schools, and real acceptance by the teachers, as shown by the cooperation they have given. Little by little, I have seen problems overcome. It has aroused teacher interest in didactics, and pupils now pay more attention. With ETV, no longer is there a monologue without participation in the classroom. The level of instruction has been raised, and good teaching brought to all. It has helped the teachers to understand that their mission is to educate, not solely instruct."

These two felt the Volunteers had done an excellent job. As one pointed out, "They have given of their own time beyond working hours, and of their own money"---the latter a reference to the purchase by studio Volunteers of minor items not obtainable in time through the Instituto's slow accounting procedures. However, one also suggested that the lack of experience of some utilization Volunteers in education hampered their effectiveness. "The Volunteer cannot give much help, because those who have never been teachers themselves are unable to furnish teachers with adequate orientation---even though these teachers may be of poor quality."

Among the problems cited were the need for funds for expansion; lack of time with a heavy production schedule to achieve the best quality possible; the difficulty of communicating with schoolteachers spread out over such a geographical range; lack of petty cash; cramped studios; and the need for more equipment and personnel. One felt strongly that the Ministry of Education had not taken enough interest, but suggested that the very real support for ETV by the schoolteachers would eventually force it to become more involved.

The Instituto Governing Committee: This is the group representing the Ministries of Education and Communication and the public, by way of a member appointed by Colombia's president, that administers the Instituto. They are political and none had served for a long time. We found each personally enthusiastic about the idea of ETV, but also found that none had much knowledge of the project's actual operation. They simply had not made themselves familiar with it. In short, there was an immense gulf between those actively working in ETV and the Instituto's governing body as to their involvement in ETV.

At the end of 1965, those were the perspectives of the Colombians most closely associated with ETV at its center. We discuss the attitudes of schoolteachers and their pupils in other reports. However, we should note that there is considerable evidence of teacher enthusiasm for ETV. In five surveys of teachers, made at different points in the project's history and covering a variety of geographical areas, we found that four or more teachers out of every five said that television could help them "a great deal" with their teaching---the most favorable of the several possible answers. Moreover, when we surveyed the same group of teachers before and after their first semester of ETV, we found that this favorable disposition did not decrease as the result of experience with ETV. As for the pupils, we always found them interested and attentive before the TV set.

The Project Timetable

When the project was planned in 1963, the Peace Corps thought that it could end its large scale association with ETV in Colombia when the initial ETV Volunteers ended their service after the first semester of 1965. Before it had any experience in the field, the Peace Corps had estimated that establishing ETV would be about a two-year task.

A description of the project in a UNESCO education yearbook for 1964---ironically, prepared by the Colombian government---gives an accurate idea of the expected progress:

> In 1963, the Governments of Colombia and the U.S.A. signed a two-year agreement for the creation of a program of educational television within the framework of primary education. After this period the government was to continue the program at its own expense.
>
> In pursuance of this agreement, the Colombian Government has entrusted the technical and educational aspects of this program to the Ministry of Education and responsibility for the classroom television broadcasts to the Ministry of Communications and the national Radio and Television Institute. The government of the U.S.A. provides financial assistance through AID as well as technical assistance through the Peace Corps Volunteers.[11]

It has not proved so simple. In retrospect, it is clear that the two-year timetable, from the Peace Corps' point of view, was the result of both an underestimate and an overestimate. It was based on an underestimate of all the technical and practical difficulties of establishing a working educational television system in a developing country, and especially those in building a large, effective network of schools. It was also based on an overestimate of the readiness and capability of Colombian organizations to take charge of the project. The expected partnership ---necessary if ETV is to become a permanent part of Colombia's educational system---between the Ministry of Education and the Ministry of Communications and the Instituto has been difficult to achieve. Instead, ETV has largely, if decreasingly so, been an independent operation functioning only by necessity as part of the Instituto.

Within a few weeks of the project's inauguration in Colombia in 1964, the Peace Corps had decided to continue its participation at least through the end of 1966 by assigning another sizable body of Volunteers to replace the initial Volunteers when their terms ended. Early in 1965, the Peace Corps decided to commit itself to ETV for an even longer period. At this writing, it plans to continue staffing the project fully with Volunteers through the end of 1968.

With its decision of 1964, the Peace Corps opened the way to long-term involvement with ETV in Colombia. At the time, this rested on a recognition, gained at its first experience in the field, of the magnitude of the task. Since then, it has been able to base further involvement on the project's very impressive accomplishments and the slow but noticeable progress toward independent Colombian operation.

We have no hesitancy in saying that we believe that involvement far beyond two years has been necessary. If the Peace Corps had ended its association with ETV in mid-1965, the lasting impact of what had been accomplished and even the future existence of the project would have been in doubt. It would have had to abandon its goals and settle for doing quite a bit---but clearly not enough. We also have no hesitancy in saying that we believe that the project's accomplishments and progress fully justify continuing involvement.

The Project's Setting

For those not familiar with Colombia, these few brief facts may help to place the ETV Project in context:[12]

> Located at the northern tip of the South American land mass just south of Panama, Colombia is the only country in South America with coastlines on both the Atlantic (1,000 miles) and the Pacific (812 miles). It covers 439,530 square miles and has a population of 17.5 million (1965 census), and on both counts is the third largest country in South America.
>
> Nearly all the people live in the western two-fifths, where there are long, deep valleys formed by four ranges of the Andes running from north to south. Of the 14 main clusters of population, 11 are in mountain basins or the valleys; the remaining three are in the Caribbean lowlands. The eastern three-fifths is either jungle or seemingly endless plains---the "*Llanos*"---used for cattle ranching.
>
> Since Colombia is crossed by the equator, climate is largely a matter of altitude. There is *tierra caliente* (hot country---tropical or sub-tropical) up to 3,000 feet; *tierra templada* (temperate zone) between 3,000 and 6,500 feet; and *tierra fria* (cold country) between 6,500 and 10,000 feet.
>
> The four mountain ranges make Colombia a country of sudden changes in climate and terrain, and have slowed development and encouraged political and cultural regionalism by hampering transportation and communications. As a partial solution, Colombia has developed an extensive network of commerical aviation, and it is often said that Colombia has stepped directly from the burro to the airplane.
>
> It is estimated that about 30 per cent of the people are of unmixed European descent, about 40 per cent are mestizos (Indian and European), about 18 per cent are mulatto (Negro and European), 7 per cent are Indian, and 5 per cent Negro. As might be expected where communications have been difficult, clusters vary widely in the predominance of one or the other of these groups.

The capital is Bogota. It has a population of 1.7 million (1965), and is on a plateau at 8,661 feet. There are 17 Departments (states), each administered by a governor appointed by the president and an elected legislature.

Politically, Colombia's history has been stormy. It is currently governed by the National Front, a coalition of the two traditional major parties, the Liberals and the Conservatives. The Front, inaugurated in 1958 for 12 years and later extended to 16, is intended to provide stability in a country plagued by civil war and violence stemming from political hostilities.

Under the Front, the presidency is alternated between representatives of the two parties, and neither party is allowed to control more than 50 per cent of the seats in either of the two houses of Congress. The current president is Carlos Lleras Restrepo, a Liberal. Although only the two parties are permitted, internal factions and open elections have led to a paradox---a government that has difficulty raising a majority for effective action, and yet is constantly under electoral threat by having a majority of individuals elected opposed to the Front concept. The system of election is proportional representation, with voting for individuals identified by party.

The Front replaced the dictatorship of General Gustavo Rojas Pinilla who had assumed the presidency after a military coup in 1953. Ironically, it was also the military that demanded his resignation to make way for the Front.

Since 1948, when the Liberal reform leader Jorge Eliecer Gaitan was shot for reasons still unknown by an assassin on a crowded Bogota street, Colombia has suffered from armed maraudering known as La Violencia. Initially pitting Conservatives against Liberals, and always centered in rural areas, it slowly shifted from political civil war to professional banditry and anomic violence. There are no precise, reliable figures on the toll, but estimates of those killed since 1948 run from over 100,000 to 200,000. Although the original Conservative-Liberal conflict no longer plays a part, banditry and leftist guerrila attacks remain a problem in rural areas.

Economically, Colombia has been largely dependent on its coffee. It provides about a sixth of the world's supply, and has been second only to Brazil in total production.

More important, as much as three-fourths of its foreign exchange, needed for the purchase of capital goods for industrial expansion, has come from coffee sales. This has tied the country's economy to the world market, where price is largely determined by the supply, dependent in turn on the vicissitudes of plantings and weather in competing countries. The second most important export is petroleum, of which Colombia is the second largest producer in South America. Colombia's natural resources are considered to be sizable, but development has been slow.

Industry supplies most of the internal demand for textiles, footwear, cement, building materials, beverages, some chemicals, glass, tires, pharmaceuticals, foodstuffs, and tobacco. Most machinery and technical equipment must be imported. Industry can only function with tariff protection, and has been hampered by low standards of individual efficiency, high costs of social insurance, low mass purchasing power, transportation costs, and insufficient electrical power.

About 58 per cent of the work force is in agriculture, and about 42 per cent in industry, transport and commerce. The per capita annual income has been estimated at about $250 (U.S.).

Education is directed by a national Ministry of Education, and administered by the individual Departments. Ostensibly, there is free public primary education. However, schools and teachers are insufficient in number and poor in quality. Many cannot register because of over-crowding. No more than about 13 per cent who enter the first grade complete the fifth. Great strides have been made against illiteracy, but estimates of adult illiteracy---depending on the criteria used---range from 38 to over 50 per cent. Up to 1942, when the Concordat of 1887 was amended, education was controlled by the Catholic Church.

For the Peace Corps, Colombia was the second country in the world (Ghana was the first) and the first in South America to which Volunteers were sent. The first group, 61 male Volunteers assigned to rural community development, arrived in Bogota in September, 1961. Since then, the Peace Corps program in Colombia has grown greatly in size and scope. However, as in all of its Latin programs, community development has remained predominant. By the fall of 1963, before the ETV Project was inaugurated, there were about 430 Volunteers in Colombia,

> with approximately 150 in rural and 65 in urban community development, 65 in health services, 50 in agricultural extension, 45 in secondary education, 25 in physical education, and 25 in university education. At the same time, there were about 200 more in training, including the ETV Volunteers. The number in service fluctuates as groups end or begin service, overlap, or fail to overlap, but since 1965 about 500 or more Volunteers have been in service in Colombia at any one time. Although rankings change with short-term fluctuations, Colombia has been among the top half dozen or so countries in numbers of Volunteers.
>
> The ETV Project was the Peace Corps' first extensive venture into elementary education in Colombia. In this respect,.it represented an opportunity to work in a problem area in which Latin countries, despite limping educational systems, had not typically asked for Volunteers. This contrasts sharply with the rest of the Peace Corps world. Peace Corps figures on its first three years show that while 76 per cent of Volunteers were in education in the rest of the world, only 17 per cent were in Latin America.

Summary and Comment

We have tried to give a picture of the Peace Corps ETV Project in Colombia as a whole. Among other things, we have looked at its background, goals, organization, television curriculum, school network, personnel, adaptations, problems, and economics. On the whole, we find that there has been very impressive accomplishment and steady progress toward its goals.

The ETV Project has been a joint effort of the Peace Corps, financially supported by the Agency for International Development, and Colombia. To date, however, the Peace Corps has played the major role, providing not only critically needed personnel, but also a framework of organization, a conception of the job to be done, leadership, and impetus and drive. What it has provided has been essential, and could not have been purchased by financial aid alone.

Much about Colombia has made it especially suitable for primary school ETV on a large scale. Like most developing countries, its schools lack trained teachers and teaching materials. Television can bring what is lacking to the classroom. More important from the viewpoint of feasibility, television can fairly readily be brought to large numbers over a wide geographical area, for Colombia has a national television network otherwise unused in the daytime, a public school system with over two million pupils, a language which almost everyone speaks (Spanish), and a national syllabus to which schools everywhere adhere.

The Peace Corps' goals have been to improve elementary school education by televising the "core" of instruction to pupils and in-service training to teachers, and to establish a functioning, efficient, competently managed ETV system which Colombia can operate without outside assistance. The project already has televised adult literacy and health instruction, and it is hoped that eventually ETV can regularly televise other adult instruction, and courses at the secondary and university level.

Since its inauguration at the beginning of 1964, the ETV Project has increased its television curriculum for the first five elementary grades from 10 semester-long courses to 16, in addition to regularly televising in-service training for teachers. Since 1964, the total minutes each week of telecasting has increased from 330 to 660, not including its pioneering in adult instruction.

Over the same period, the ETV Project has increased its receiving network from 200 schools in which 1,000 teachers and 38,000 pupils were using ETV to 1,250 schools in which 8,500 teachers and 350,000 pupils were using ETV. In doing so, it has spread ETV's coverage from a base of the capital, Bogota, and the surrounding Department of Cundinamarca to include an additional seven Departments.

We find this growth very impressive. It has come only through diligent and imaginative effort---not only in practical and technical matters, but in adapting to Colombian conditions. At the same time, there have been notable gains in the quality of operation---both in the technical and instructional merits of the television, and in the effectiveness and smoothness of its use in the schools.

We have found that Colombian participation in the project has grown steadily. Despite an actual increase in the number of Peace Corps Volunteers in the project between 1964 and 1966, the proportion of ETV personnel that is Colombian has increased from 23 to about 37 per cent. More important than numbers has been the kind of work the Colombians eventually have come to do. In 1964, a majority of the courses had Colombian producer-directors, trained by Volunteers. And by turning to the Departments after the national government failed to provide utilization counterparts to augment the Volunteers working with teachers in the schools, the Peace Corps has built a locally-based Colombian staff to manage ETV in the schools.

We find noteworthy evidence of viability in this partnership with the Departments, for it not only solved the problem of transferring vital functions from Volunteers to Colombians, but also took advantage of the political organization of Colombia and the structure of its educational system. We have also found the project to have adapted to demands placed on it in other ways---in course revisions, studio organization, the broadening of the utilization Volunteer's role to include "school development," and in other ways.

The project has faced a number of severe problems. These have included a myriad of frustrations in the efficient production and transmission of television of the quality and quantity desired, and unexpected difficulties in making ETV work smoothly and effectively in Colombia's poorly equipped and often rather disorganized schools. By the end of 1965, the project's second year, most of the production and transmission problems had been solved, and with the opening in late 1966 of new studios solely for ETV difficulties should be no more than would be normal in more highly developed countries. There has been steady progress in improving conditions in the schools. However, the most important single problem has been gaining full commitment to ETV from Colombian persons and agencies---a typical problem of introducing large-scale innovations in developing countries where so many ambitious undertakings prove to falter. Here, too, however, we believe there has been very real progress, although like the problem itself it is not amenable to proof by statistics.

As to the project's economics, a UNESCO team estimated that at the end of 1965 the per student hour cost of television was between 5 cents (with charges for all personnel, including Volunteers, calculated at Colombian rates) and 7.5 cents (with actual Peace Corps costs included). It estimated that the cost at that time of adding to the quantity of television delivered by adding a TV set was .8 (eight tenths) cent per student hour, and by adding an hour of television 1.9 cents (with charges for all personnel at Colombian rates). These costs are low both in absolute terms and by comparison with cost figures available for other "core" instruction television projects. On the basis of the UNESCO figures, we consider the economic picture to be very favorable.

At the end of the project's second year, 1965, we found that the Colombians working closely with ETV at its organizational top in Bogota viewed the project with optimism, although they offered some suggestions for improvement. Most important, we found them to be very concerned with making improvements, and not at all with cessation. We take this to be a very good sign. In a number of opinion surveys, we have found the classroom teachers to be very favorably disposed toward ETV. We have found their pupils rapt by it.

Originally, the Peace Corps hoped to leave Colombia with a functioning ETV system within two years---by the time the initial ETV Volunteers ended their service in mid-1965. Once the project was under way, and the magnitude of the task became clearer, it extended its timetable. At this writing, it plans to remain involved in ETV in Colombia at least through 1968. We believe the lengthening of the timetable was essential if the Peace Corps were to accomplish any of its goals in a meaningful fashion. In our opinion, the project's accomplishments and progress, along with the considerable investment already made, justify continuing involvement.

We will conclude on a subjective note. If work accomplished were the sole criterion, the ETV Project could be said to be a resounding success. The Peace Corps and its Volunteers have performed a prodigious task in ETV in Colombia. Unfortunately, a program also must be evaluated in terms of its goals. We are pleased that we feel we can also say that there has been significant progress toward their achievement. The size of the curriculum and school network represents a new kind of schooling for about one out of five of Colombia's public elementary school pupils. Moreover, it constitutes an imposing foundation for further expansion. Independent Colombian operation is still some time away. However, we have seen progress toward it, and it is our guess that the Peace Corps' accomplishments, as a demonstration of the possibilities of ETV in Colombia, will lead to growing commitment by Colombia. At the end of our two years of data-gathering with the project in Colombia, there were two important conditions for Colombian operation left unfilled. We would be remiss if we did not mention them. One is further involvement of the Ministry of Education. Up to the end of 1965, it had not yet accepted ETV sufficiently for it to participate much beyond being an observer. We suspect that ETV's future largely depends on its integration at the top with Colombia's education system. The other is the lack, in Colombia's ETV organization, of a single, powerful administrator comparable to the Peace Corps' ETV Project Director. On the basis of our observation of the project, we believe that such a figure is essential to its well-being. Innovation is too tenuous in a developing country for it to last without effective leadership. We are sceptical over the prospects of transferring authority until there is someone in a permanently established, secure office to assume it. In our opinion, these are the two major remaining steps toward Colombian operation.

FOOTNOTES

[1] Figures supplied by the Colombian Ministry of Education. They apply only to public schools, with which the ETV Project has been concerned exclusively.

[2] Population growth rate estimates are from *Demographic Yearbook 1965* (New York: Statistical Office of the United Nations, Department of Economic and Social Affairs, United Nations, 1966), and are the average annual increase 1958-64. The estimate for Colombia is the highest for any Latin American country except for Venezuela and Surinam. An even higher estimate of the current rate of Colombia's growth, 3.7 per cent, has been published recently by the New York Times. United Nations Economic Commission conclusions are as reported in Pat M. Holt, *Colombia Today---And Tomorrow* (New York: Praeger, 1964).

[3] Orlando Fals Borda, "Bases for a Sociological Interpretation of Education in Colombia," in A. Curtis Wilgus, ed., *The Caribbean: Contemporary Colombia* (Jacksonville: University of Florida Press, 1962), p. 200.

[4] We are indebted to John Mayo, a volunteer in ETV 1965-1967, for keeping us informed of the project's development during 1966 when we did not maintain a research office in Colombia.

[5] See *Report No. 2* (*), this series.

[6] See *Report No. 6* (*), this series.

[7] *Comprehensive Dictionary of Psychological and Psychoanalytic Terms* (New York: Longmans, Green & Co., 1958), p.11.

[8] See *Report No. 4* (*), this series.

[9] The case study of Colombia ETV, by Jack Lyle, is now in preparation (Paris: International Institute for Educational Planning (estab. by UNESCO)). A summary of the case studies with extensive attention to the problems of cost and planning, also is in preparation---Wilbur Schramm, Philip H. Coombs, Friedrich Kahnert, and Jack Lyle, *The New Media: Memo to an Educational Planner* (tent.) (Paris: International Institute for Educational Planning).

[10] The interviewer was Pilar Santamaria.

[11] *International Yearbook of Education*, 1964 (Paris: International Bureau of Education, Geneva, 1964), p. 80.

[12] Compiled from a variety of sources, the principal ones being H. Davies, ed., The South American Handbook, 1965 (London: Trade and Travel Publications Ltd., 1964); Holt, _op_. _cit_., Wilgus, _op_. _cit_.; the Colombian national census, 1965; and various Peace Corps publications.

(*) For titles, see _Reports In This Series_, at end.

Reports In This Series

This series supplants all previous reports on the two years of research conducted on the Peace Corps Educational Television Project in Colombia. There are 12 volumes -- 10 research reports, each dealing with a different aspect of the project, plus An Introduction, concerned with the organization and conduct of the research, and a concluding Overview, containing a summary of the major findings and some general observations on the project.

The title of the series: The Peace Corps Educational Television Project in Colombia -- Two Years of Research.

The individual volumes:

An Introduction to Research Reports No. 1-10.

Report No. 1: The Project as a Whole -- Organization, Expansion, and Adaptation.

Report No. 2: The Project's First Semester -- Pupil Achievement, Teacher Attitudes, and the Work of the Utilization Volunteer.

Report No. 3: Improving the Effectiveness of the Utilization Volunteer and the Utilization of ETV by the Colombian Teacher.

Report No. 4: The Colombian Teacher and the Utilization Volunteer -- Making ETV Work in the Schools of a Developing Country.

Report No. 5: The Day-to-Day Job of the Utilization Volunteer -- Structure, Problems, and Solutions.

Report No. 6: Instructional Television for the In-Service Training of the Colombian Teacher.

Report No. 7: Improving the Effectiveness of Peace Corps Efforts to Change Teacher Behavior.

Report No. 8: The Televised Curriculum and the Colombian Teacher.

Report No. 9: The Volunteers.

Report No. 10: Feedback to the Peace Corps on Project Progress -- Some Models and Suggestion.

An Overview of Research Reports No. 1-10.

BRIEF FACTS

The ETV Project: In 1963, the Peace Corps, with the financial support of the Agency for International Development (AID), agreed to help the Colombian government establish a nationwide educational television (ETV) system directed primarily at improving public education. The initial Peace Corps goal was to provide televised instruction for primary school pupils and their teachers. It was hoped that eventually the system could also provide instruction for adults in literacy, health, agriculture, and topics of general interest, and for students beyond the primary grades. The ultimate Peace Corps goal is to establish an ETV system operated independently by Colombia. The project was inaugurated in Colombia at the beginning of 1964. It has had two major concerns in achieving its initial goal: the production of televised courses, and the building of a receiving network of schools with television in which teachers would build their own teaching around the instructional "core" provided by the telecasts. During the project's first three years (1964-1966), the number of Volunteers assigned to the project by the Peace Corps who have worked closely with Colombians toward these goals has ranged from 66 to 88. Of these, about half a dozen have been concerned with the installation and maintenance of TV sets in schools, between slightly more than half to two-thirds working with teachers in schools on making ETV more effective, and the rest with the production of telecasts. During the first year, 10 courses were telecast for pupils, each consisting of two 15 minute telecasts a week, for a weekly total of 300 minutes, exclusive of repeated programs; during 1965 and 1966, 15 such courses were telecast, for a weekly total of 450 minutes exclusive of repeated programs. In addition, individual programs and short courses have been telecast for teachers. When telecasting began in February, 1964, the receiving network encompassed approximately 200 schools, 1,000 teachers, and 38,000 pupils; by the end of 1964, 500 schools, 4,025 teachers, and 153,000 pupils; by the end of 1965, 925 schools, 7,000 teachers, and 260,000 pupils; and by the end of this year, 1,250 schools, 8,500 teachers, and 350,000 pupils. Telecasting has been over the open network of the Instituto de Radio y Television, a semi-government agency which telecasts commercially in the evenings, and which also has provided studio facilities for ETV. To achieve its ultimate goal, the Peace Corps has been concerned with building a permanent, financially viable, and competent organization to assume the Volunteers' functions. At present, Peace Corps participation is planned to continue up to the middle of 1968. For more on the ETV Project itself, see *Report No. 1*: *The Project as a Whole -- Organization, Expansion, and Adaptation*, this series.

The Research: Because Colombia was the first country in which the Peace Corps undertook an educational television (ETV) project, it decided to provide for close, thorough, and continuing research, and late in 1963 contracted with Stanford University's Institute for Communication Research. The Institute maintained a staff in Colombia actively engaged in research for the first two years of the ETV Project, from January, 1964, through January, 1966. The titles of the final series of reports on its studies appear on the previous page. For more on the research as a whole, see *An Introduction to Reports No. 1-10*, this series.